

State Laboratory Institute

Diagnostic Testing for Arboviruses in Veterinary Specimens

Serologic tests, cell culture and are available to detect the presence of antibody and virus due to West Nile Virus (WNV) infection and Eastern equine encephalitis (EEE) virus infection. Multiple tests will be performed to identify viral infection and/or confirm exposure to virus. Testing may require that follow up (convalescent) specimens will be requested.

The following information is critical for accurate interpretation of test results:

Date of onset of disease symptoms

Dates of sample collection

Travel history (e.g., horse stabled in two different areas)

Vaccination history (e.g., horse previously vaccinated against WNV)

Disease history

Listing of neurological symptoms

Specimen types and amounts

Acute serum ($\geq 3\text{ml}$) and CSF ($\geq 1\text{ml}$) for screening by enzyme immunoassays should be collected within the first 14 days following onset of symptoms and sent immediately to the State Laboratory Institute (SLI). In general, convalescent-phase specimens should be drawn approximately 10-14 days after acute phase specimens.

CSF, brain and other tissues will be evaluated by cell culture and, if sufficient specimen volume is available, by PCR. Specimens submitted for viral isolation within 48 hrs should be stored and shipped at 4°C. If already frozen, specimens should be shipped on dry ice. Brain tissue will be screened for rabies virus, and negative samples will then be evaluated by cell culture and/or PCR for arboviruses.

Veterinary specimens should be submitted using SLI's animal specimen submission form (SS-SLI-2-07) (http://www.mass.gov/dph/bls/animal_specimen_submission_form.pdf). If brain tissue is submitted, complete and submit, in addition, the rabies specimen submission form (SS-RA-1-06) (http://www.mass.gov/dph/bls/rabies_submission_form.pdf).

Additional arboviral information can be found on MDPH's arbovirus website (<http://www.mass.gov/dph/wnv/wnv1.htm>). Additional rabies information can be found on MDPH's rabies website (<http://www.mass.gov/dph/cdc/epii/rabies/rabies.htm>).

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